

CIRCULAR No. 91

DISINFECTION ON THE FARM.

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Disease producing bacteria, such as those causing tuberculosis and infectious abortion in cattle, and, in fact, most all of the infecting organisms causing diseases in animals, are quite readily destroyed by the use of certain chemicals which are more effectively applied under the conditions mentioned herein.

1. **Clean the stable and corrals thoroughly.** Cleanliness is an important adjunct to the work of disinfection. The proper cleaning of the stable would include (a) the removal of all manure; (b) the removal of all feed and piles of foreign material where disinfection is to be applied; (c) the removal of rotten woodwork and loose boards, especially of the floors; (d) the sprinkling of the floor and dirty surfaces with a disinfectant to lay the dust, and the sweeping of the ceilings, walls and floors thoroughly; (e) the removal of all dried accumulations of foreign material about the mangers, floors and drains. In dairy barns it is especially important to scrape the side walls in order to remove all manure; (f) Special attention should always be given to the feed boxes, mangers, and water troughs, as it is through these that the infecting material of tuberculosis, especially, is most apt to be carried from the diseased to the healthy animal; (g) In cleaning the corral all refuse, manure, etc., should be removed to a place inaccessible to live stock. The surface of the corral can be successfully cleaned by scraping; (h) In the proper disinfection of cow yards after removing all particles of manure, the surface can be made safe with slight expense by burning over the surface with a thin layer of straw, or other cheap material, followed by plowing under the top soil.

2. **Permit the entrance of a plentiful amount of light.** Strong sunlight is a natural germ destroyer, providing the sun shines directly upon the infecting material sufficiently to dry it completely. These organisms are destroyed by less intense light, but, of course, more slowly than where direct sunlight is possible, consequently bacteria live for long periods in dark places.

3. **Apply chemical disinfectants.** After the stable and yards have been treated as recommended above, they are ready for the application of chemical disinfectants. These are substances which poison the bacteria which are apt to be very numerous where an infectious disease exists. Many different disinfectants can be used, but we

limit ourselves here to the use of two preparations, corrosive sublimate and compound solution of cresol, which are among the most active in their value for the destruction of these organisms. These materials are cheap and obtainable at any drug store.

1. **Bichloride of mercury, or corrosive sublimate.** This is a most active germicide in one tenth per cent solutions. It has the advantage over cresol for use in a dairy stable on account of it being odorless. This substance is very poisonous when taken internally and must be used with great care. Before it is applied, it must be dissolved in water in the proportion of one part to one thousand, when purchased in the powdered or crystal form. Corrosive sublimate is dispensed by druggists in tablets which dissolve readily in cold water. Tablets colored blue are preferable, as they color the water and lessen the danger of accidental poisoning. Directions for using the tablets in a one to one thousand per cent solution are usually printed on the package in which the tablets are dispensed. One ounce of corrosive sublimate crystals dissolved in eight gallons of water makes a solution of the proper strength. In making this solution the corrosive sublimate crystals should be dissolved in one gallon of hot water and then mixed with enough cold water to make eight gallons. It corrodes metal, hence the solution should be kept in a wooden tub, or earthenware crock.

2. **Compound solution of cresol.** Compound solution of cresol (liquor cresolis compositus or lysol), now recognized by the U. S. Pharmacopœia as an official preparation, is composed of equal parts of cresol (U. S. P.) and linseed oil-potash soap. It is an efficient disinfectant in a 4 per cent solution when applied to infected stable surfaces and has the advantage of mixing readily with water.

Coal tar products similar to the above cresol preparations which are sold under various trade names are usually satisfactory when used in sufficient strength. As stable disinfectants such dips should be used in sufficient strength to insure a cresylic acid solution of at least 2 per cent.

Mention of carbolic acid is omitted in this circular because the cresol preparations are cheaper than the pure carbolic acid and not so poisonous. Crude carbolic acid varies so in strength that it is not to be depended upon.

Many of the commercial disinfectants are inefficient unless used in considerable strength.

Chemical disinfectants in ordinary strength are inefficient in anthrax, blackleg, and hog cholera. Fire, formaldehyde in 10 per cent solution, concentrated mineral acids, and the cresol or other strong preparation, undiluted, are the only disinfectants that can be depended upon.

Disinfectants cannot destroy germs if they do not come into direct contact with them. Disinfectants should be applied in sufficient quantity to thoroughly saturate the surfaces, after the adhering particles of dirt are removed. In the application of the disinfectant in cow stables it is well to use a broom or stiff brush and thoroughly scrub the floor, feed troughs, stanchions, and lower parts of the walls. The solution can be applied to the ceilings and upper parts of the side walls with a spray pump, and must be carried into any crevice and recess into which dirt can enter.

After disinfecting, whitewash the stable. Although whitewash is not an active disinfectant, in the usual meaning of the term, it is an excellent purifier and should in all cases be used in stables after they have been thoroughly cleansed and disinfected with other agents. Hot whitewash for this purpose is better than cold. If chloride of lime is added to whitewash in the proportion of four ounces to the gallon, the value of this application is greatly increased. It is advisable to whitewash cow stables frequently, at least once in six months, and better every three months where diseased animals have been kept.

